

What is claimed is:

- 5 1. A method for designing a spectacle lens, comprising the steps of a.) providing a first lens having a first design; b.) identifying at least one point of regard for the first lens; c.) obtaining information regarding the lens' performance using the at least one point of regard; and d.) modifying the first design using the information obtained in step c.) to provide a second lens having a second design.
- 10 2. The lens of claim 1, wherein the lens is a single vision lens.
3. The lens of claim 1, wherein the lens is a progressive addition lens.
- 15 4. The lens of claim 4, wherein a front and a back surface of the lens is a progressive addition surface.
5. The method of claim 1, wherein step b.) further comprises identifying a plurality of PORs while an object is viewed by an individual at at least two
20 different distances.
6. The method of claim 5, wherein the object is viewed at a distant, a near, and an intermediate location.
- 25 7. The lens of claim 1, whereon step b.) further comprises identifying an average location for a population for the at least one POR.
8. The method of claim 1, wherein step d.) further comprises modifying one or more of a width of a viewing zone, a near vision zone inset angle, a channel
30 length, channel location, a channel location, a distribution of unwanted astigmatism,

an axis of unwanted astigmatism, a prism profile, a binocular design feature, an asphericity, or an aberration correction.

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9. A lens designed according to the method of claim 1.

10. A method designed according to the method of claim 3.

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11. A lens designed according to the method of claim 4.

12. An apparatus for measuring head and eye movement, comprising a head movement sensor, a scene camera, an eye camera, a scene monitor, an eye monitor, an infrared light source and a beam splitter capable of transmitting visible
15 light and reflecting infrared light.

13. The apparatus of claim 12, further comprising a spectacle lens and an occluder located at an optical center of the lens.

20 14. The apparatus of claim 12, further comprising a spectacle lens and an occluder located at a prism reference point of the lens.